

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/KR2004/002238

**A. CLASSIFICATION OF SUBJECT MATTER****IPC7 B01D 71/02, B01D 69/12**

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

B01D, C04B, B01J

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean Patents and applications for inventions since 1975

Korean Utility models and applications for Utility models since 1975

Japanese Utility models and applications for Utility models since 1975

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKIPASS

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4,929,406 A (NGK Insulators, Ltd.) 29 May 1990 see the whole document	1, 4
A	JP 59-179112 A (Mitsubishi Heavy Ind. Ltd.) 11 October 1984 see the whole document	1 - 8
A	JP 01-119324 A (Saito Shozahuro) 11 May 1989 see the whole document	1 - 8
A	US 5,160,352 A (Texaco Inc.) 03 November 1992 see the whole document	1 - 8

☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&amp;" document member of the same patent family

Date of the actual completion of the international search

09 DECEMBER 2004 (09.12.2004)

Date of mailing of the international search report

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 4,929,406 A	29.05.1990	JP 01-304006 A2 EP 344011 A1 US 4,971,696 A EP 692303 A2	07.12.1989 29.11.1989 20.11.1990 17.01.1996
JP 59-179112 A	11.10.1984	none	
JP 01-119324 A	11.05.1989	none	
US 5,160,352 A	03.11.1992	none	